

Abstract

5 The invention relates to a scratchproof, temperature-stable protective layer, in particular a scratch-resistant protective layer for cooking hobs, and to processes and an apparatus for producing these protective layers.

10 The protective layer includes at least one hard-material layer which comprises a functional layer formed from a metal oxide and/or metal nitride and/or metal carbide and/or metal oxynitride and/or metal carbonitride and/or metal oxycarbonitride, preferably from yttrium-zirconium oxide, the functional layer being interrupted by very thin interlayers, 15 preferably formed from silicon oxide, silicon nitride or titanium-aluminum oxide, so that the functional layer has a morphologically dense columnar structure that grows substantially perpendicular to the body surface. Economic production of layers of this type is achieved in particular 20 by means of a magnetron sputtering process and a corresponding arrangement, with the tendency of the columnar structures to widen out being reduced by targeted interruption of the growth of the functional layers.